

Remarks

Applicant has carefully considered the Examiner's remarks and rejections in the Office Action dated May 21, 2003. To further prosecution, Applicant has amended the specification and the claims to address the Examiner's remarks. For the reasons given below, however, Applicant submits that the Examiner's rejections are improper.

Copending Application Status

The Examiner requests that Applicant update the status of the copending application. Office Action pg. 2. Applicant has above amended the paragraph regarding related applications to update the information regarding the related, copending application.

Foreign Priority Claim

The Examiner asserts that Applicant has made a claim for foreign priority based on a Japanese application filed on November 30, 2000. Office Action pg. 2. Applicant, however, does not believe it has made such a claim. Applicant respectfully requests that the Examiner carefully reconsider the Combined Declaration and Power of Attorney.

Suggested Amendments

The Examiner suggests that claim 10 be amended to recite "one or more" instead of "one more." Office Action pg. 2. Applicant has above amended claim 10 to recite "one or more" instead of "one more."

Section 102 Rejections

The Examiner rejects claims 1-2, 4, and 10-12 under 35 U.S.C. § 102(b) as being anticipated by any one of U.S. Patent No. 3,981,946 issued to Soya, et al. ("Soya"), U.S. Patent No. 3,904,722 issued to Onoda, et al. ("Onoda"), U.S. Patent No. 4,011,287 issued to Marley ("Marley"), and U.S. Patent No. 5,012,841 issued to Kueffer ("Kueffer"). Office Action pg. 2. Applicant, however, disagrees with these rejections.

To anticipate a claim under § 102, a reference must teach each and every limitation of the claim. M.P.E.P. § 2131. Furthermore, the elements in the reference must be arranged as specified in the claim. Id. *Soya, Onoda, Marley, and Kueffer*, however, each fail to teach at least one limitation in each of claims 1-2, 4, and 10-12. Thus, these references do not anticipate these claims.

Claim 1 is an independent claim containing limitations that none of *Soya, Onoda, Marley, and Kueffer* teach. Claim 1 recites:

A steam pressure reducing and conditioning valve for passing a superheated steam inflowing from a first port through a pressure reducing section, and supplying a mist of subcooled water and discharging cooled and decompressed vapor from a second port, wherein a nozzle for supplying said mist is provided in the proximity to said pressure reducing section, a flat nozzle injecting said mist in a planar pattern whereby the planar orientation is perpendicular to the direction of steam flows, and it is disposed a predetermined distance from said pressure reducing section.

Soya, however, fails to teach “a flat nozzle,” because *Soya* teaches a cylindrical member 20 having a slit 22 through which water may be sucked and ejected. col. 2, l. 65 – col. 3, l. 55. Furthermore, *Soya* fails to teach “a flat nozzle injecting said mist in a planar pattern whereby the planar orientation is perpendicular to the direction of steam flows.” Indeed, *Soya* teaches nothing about patterns or their orientations. Id. Applicant notes the Examiner’s assertion to the contrary, Office Action pg. 2, but, as just discussed, *Soya* only teaches a slit 22 that allows water to be sucked and ejected. This does not teach “a flat nozzle,” much less “a flat nozzle injecting said mist in a planar pattern whereby the planar orientation is perpendicular to the direction of steam flows.” Thus, *Soya* fails to teach all of the limitations of claim 1.

Onoda similarly fails to teach “a flat nozzle,” because *Onoda* only teaches a cylindrical member 37 having a slit 41 through which water is sucked and ejected. col. 3, l. 14 – col. 4, l. 58. Furthermore, *Onoda* fails to teach “a flat nozzle injecting said mist in a planar pattern whereby the planar orientation is perpendicular to the direction of steam flows,” because it teaches nothing about patterns or their orientations. Id. Applicant notes the Examiner’s

assertion to the contrary, Office Action pgs. 2-3, but for the reasons just discussed, *Onoda* is deficient.

Additionally, *Marley* fails to teach the discussed limitations. *Marley* teaches an orifice plate 36 for introducing water into steam before the steam passes through a pressure-reducing stack 16. col. 3, l. 62 – col. 4, l. 14. Orifice plate 36 includes an orifice 58 that is approximately 1/16 inches in diameter. col. 4, ll. 48-52. Thus, *Marley* fails to teach “a flat nozzle,” much less “a flat nozzle for injecting said mist in a planar pattern whereby the planar orientation is perpendicular to the direction of steam flows.” Indeed, as with *Soya* and *Onoda*, *Marley* fails to teach anything about patterns or their orientations. Applicant notes the Examiner’s assertion to the contrary, Office Action pg. 2, but for the reasons just discussed, *Marley* fails to teach the limitations.

Furthermore, *Kueffer* fails to teach the discussed limitations. While *Kueffer* teaches a nozzle in the side of an outlet chamber 100, col. 6, ll. 46-50, it fails to teach “a flat nozzle,” much less “a flat nozzle for injecting said mist in a planar pattern whereby the planar orientation is perpendicular to the direction of steam flows.” Indeed, as with *Soya*, *Onoda*, and *Marley*, *Kueffer* fails to teach anything about patterns or their orientations. Applicant notes the Examiner’s assertion to the contrary, (Office Action pg. 3), but for the reasons just discussed, *Kueffer* fails to teach the limitations.

For at least these reasons, Applicant submits that each of *Soya*, *Onoda*, *Marley*, and *Soya* fails to teach at least one of the limitations of claim 1. Hence, Applicant respectfully requests the Examiner to withdraw the § 102 rejection thereof.

Claim 2 depends from claim 1 and, hence, contains all of its limitations, which have already shown to be allowable over each of *Soya*, *Onoda*, *Marley*, and *Kueffer*. Furthermore, claim 2 contains additional limitations to those of claim 1. For at least these reasons, Applicant submits that claim 2 contains limitations not taught by any of *Soya*, *Marley*, *Onoda*, and *Kueffer*. Thus, Applicant respectfully requests the Examiner to withdraw the § 102 rejection of claim 2.

Claim 4 is another independent claim containing limitations not taught by any of *Soya*, *Onoda*, *Marley*, and *Kueffer*. Claim 4 recites:

A conditioning valve for desuperheating and depressurizing superheated steam, the valve comprising:

a pressure reducing section for reducing the pressure of the steam; and
a moisture jet section downstream of the pressure reducing section,
wherein the moisture jet section comprises:

one or more flat nozzles for injecting one or more respective planar patterns of water into a flow of the steam exiting the pressure reducing section.

As discussed previously, however, none of *Soya*, *Onoda*, *Marley*, and *Kueffer* teaches “a flat nozzle,” much less “one or more flat nozzles for injecting one or more respective planar patterns of water into a flow of the steam exiting the pressure reducing section.” For at least these reasons, Applicant submits that each of *Soya*, *Onoda*, *Marley*, and *Kueffer* fails to teach all of the limitations of claim 4. Hence, Applicant respectfully requests the Examiner to withdraw the § 102 rejection thereof.

Claim 10 is another independent claim containing limitations that none of *Soya*, *Onoda*, *Marley*, and *Kueffer* teaches. Claim 10, as amended, recites:

A conditioning valve for desuperheating and depressurizing superheated steam , the valve comprising:

a pressure reducing section comprising:

a plug having a small-hole section comprising:

a cylindrical body having a bottom, a plurality of small holes scattered about the cylindrical body proximate the bottom, wherein steam exits the pressure section in rapid annular flow; and

a moisture jet section downstream of the pressure reducing section, the moisture jet section comprising one or more flat nozzles for injecting one or more respective planar patterns of water into the flow of steam exiting the pressure reducing section.

As discussed previously, however, none of *Soya*, *Onoda*, *Marley*, and *Kueffer* teaches “a flat nozzle,” much less “one or more flat nozzles for injecting one or more respective planar patterns of water into the flow of steam exiting the pressure reducing section.” Furthermore, nowhere does any of *Soya*, *Onoda*, *Marley*, and *Kueffer* teach “a cylindrical body having a bottom, a plurality of small holes scattered about the cylindrical body proximate the bottom,

wherein steam exits the pressure section in rapid annular flow.” Indeed, *Soya*, *Onoda*, and *Kueffer* appear to have nothing of the sort, and while *Marley* has a perforated cage portion 29, col. 3, ll. 43-64, it does not teach “a cylindrical body having a bottom, a plurality of small holes scattered about the cylindrical body proximate the bottom, wherein steam exits the pressure section in rapid annular flow.” For at least these reasons, Applicant submits that *Soya*, *Onoda*, *Marley*, and *Kueffer* fail to teach all of the limitations of claim 10. Hence, Applicant respectfully requests the Examiner to withdraw the § 102 rejection thereof.

Claims 11-12 depend from claim 10 and, hence, contain all of its limitations, which have already been shown to be allowable over each of *Soya*, *Marley*, *Onoda*, and *Kueffer*. Furthermore, claims 11-12 contain additional limitations to those of claim 10. For at least these reasons, Applicant submits that claims 11-12 contain limitations not taught by any of *Soya*, *Marley*, *Onoda*, and *Kueffer*. Thus, Applicant respectfully requests the Examiner to withdraw the § 102 rejection of claims 11-12.

Section 103 Rejections

The Examiner rejects claims 3 and 8-9 under 35 U.S.C. § 103(a) as being unpatentable over any one of *Soya*, *Onoda*, *Marley*, and *Kueffer* in view of U.S. Patent No. 2,421,761 issued to Rowland (“*Rowland*”). Office Action pg. 3. Furthermore, the Examiner rejects claims 5-7 under § 103(a) as being unpatentable over any one of *Soya*, *Onoda*, *Marley*, and *Kueffer*. Office Action pg. 4. Additionally, the Examiner rejects claims 13-17 under § 103(a) as being unpatentable over any of *Soya*, *Onoda*, *Marley*, and *Kueffer*. Office Action pg. 5. Applicant, however, disagrees with these rejections.

To render a claim obvious under § 103, a reference or a combination of references must teach or suggest all of the claimed limitations. M.P.E.P. § 2142. Furthermore, there must be some motivation to modify the reference or combine reference teachings. Id. Thus, if a reference or a combination does not teach all of the limitations, or if there is no motivation to modify the reference or make the combination, the claim is not obvious in light of the reference or the combination.

Claim 3 depends from claim 1 and, hence, contains all of its limitations, which have already shown to be allowable over each of *Soya*, *Onoda*, *Marley*, and *Kueffer*. Furthermore, claim 3 contains additional limitations to those of claim 1, and the Examiner only asserts that *Rowland*'s teachings are relevant to the limitations in claim 3. Office Action pg. 3. For at least these reasons, Applicant submits that claim 3 contains limitations not taught by any of *Soya*, *Onoda*, *Marley*, *Kueffer*, and *Rowland*. Furthermore, the Examiner's asserted reason for combining *Rowland* with *Soya*, *Onoda*, *Marley*, or *Kueffer*, Office Action pg. 3, is not taught by *Rowland*. col. 3, ll. 1-15; col. 4, ll. 70-72. Thus, the combination is improper. Applicant, therefore, respectfully requests the Examiner to withdraw the § 103 rejection of claim 3.

Claims 5-7 depend from claim 4 and, hence, contain all of its limitations, which have already shown to be allowable over each of each of *Soya*, *Onoda*, *Marley*, and *Kueffer*. Furthermore, claims 5-7 contain additional limitations to those of claim 4. For at least these reasons, Applicant submits that claims 5-7 contain limitations not taught by any of *Soya*, *Onoda*, *Marley*, and *Kueffer*. Thus, Applicant respectfully requests the Examiner to withdraw the § 103 rejection of these claims.

Claims 8-9 also depend from claim 4 and, hence, contain all of its limitations, which have already shown to be allowable over each of *Soya*, *Onoda*, *Marley*, and *Kueffer*. Furthermore, claims 8-9 contain additional limitations to those of claim 4, and the Examiner only asserts that *Rowland*'s teachings are relevant to the limitations of claims 8-9. Office Action pg. 4. For at least these reasons, Applicant submits that claims 8-9 contain limitations not taught by any of *Soya*, *Onoda*, *Marley*, *Kueffer*, and *Rowland*. Furthermore, the Examiner's proposed reason for combining *Rowland* with *Soya*, *Onoda*, *Marley*, or *Kueffer*, Office Action pgs 4-5, is not taught by *Rowland*. col. 3, ll. 1-15; col. 4, ll. 70-72. Thus, the combination is improper. Applicant, therefore, respectfully requests the Examiner to withdraw the § 103 rejection of claims 8-9.

Claim 13 is an independent claim containing limitations that none of *Soya*, *Onoda*, *Marley*, and *Kueffer* teaches or suggests. Claim 13 recites:

A method of desuperheating and depressuring superheated steam, the method comprising:

depressuring superheated steam;
transforming the steam into rapid annular flow; and
injecting one or more planar patterns of water into the rapid annular flow.

For the reasons discussed with respect to claim 10, however, nowhere does *Soya*, *Onoda*, *Marley*, or *Kueffer* teach or suggest “transforming the steam into rapid annular flow” or “injecting one or more planar patterns of water into the rapid annular flow.” Furthermore, the Examiner’s assertion that spraying in a planar pattern is a function of pressurization, Office Action pg. 5, is not understood because, in general, spraying in a planar pattern is not a function of pressurization. Hence, if the Examiner is going to maintain this assertion, Applicant respectfully requests the Examiner to either provide supporting documentation or an affidavit. M.P.E.P. § 2144.03. For at least these reasons, Applicant respectfully requests the Examiner to withdraw the § 103 rejection of claim 13.

Claims 14-17 depend from 13. Hence, these claims contain all of the limitations of claim 13, which has already been shown to be allowable over each of *Soya*, *Onoda*, *Marley*, and *Kueffer*. Furthermore, claims 14-17 contain additional limitations to those recited in claim 14. For example, claim 15 recites that positioning nozzles “comprises positioning at least one nozzle for forming a planar pattern of water at an upstream position to inject water into the flow while the flow is uniform and rapid and orienting the at least one nozzle to avoid contacting the structure with water from the nozzle.” Nowhere, however, does *Soya*, *Onoda*, *Marley*, or *Kueffer* teach a flow that “is uniform and rapid,” much less “positioning at least one nozzle for forming a planar pattern of water at an upstream position to inject water into the flow while the flow is uniform and rapid.” For at least these reasons, Applicant respectfully requests the Examiner to withdraw the § 103 rejection of claims 14-17.

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Conclusion

For the reasons given above, Applicant submits that a good-faith effort has been made to advance the prosecution of this application. Furthermore, Applicant submits that the application is in condition for allowance and respectfully requests same. If the Examiner feels that prosecution may be advanced by a conference, however, Applicant respectfully requests the Examiner to contact the below-listed attorney.

Applicant believes that no fees are required by this paper. However, if Applicant is incorrect, Applicant respectfully requests that any required fees be charged to Deposit Account No. 06-1050, with reference to the instant case.

Respectfully submitted,

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